AN 1998:473216 CAPLUS
DN 129:209080
TI Efficient XeI* excimer ultraviolet sources from a dielectric barrier discharge
AU Zhang, Jun-Ying; Boyd, Ian W.
CS Department of Electronic and Electrical Engineering, University College London, Torrington Place, London, WC1E 7JE, UK
SO Journal of Applied Physics (1998), 84(3), 1174-1178
CODEN: JAPIAU; ISSN: 0021-8979
PB American Institute of Physics
DT Journal
LA English
AB A dielec. barrier discharge in mixts. of xenon and iodine to provide intense narrow band UV radiation at .lambda. = 253 nm (**XeI***) was studied. The characteristics of the emission spectra of the excited dimer (excimer) and UV intensity formed from mixts. of xenon and iodine for different total gas pressures are reported. The abs. UV output power of the **XeI* lamp** was detd. using actinometry based on the photohydrate of uridine. The elec. power dependence of the UV intensity generated as well as the conversion efficiency of the **lamps** also was studied. Conversion efficiencies (from input elec. to output optical energy) .ltoreq.22.5% were achieved for an elec. power input of 70 W, with 15.75 W of optical output being generated.

AN 1997:663032 CAPLUS
DN 127:338959
TI The development of a silent discharge-driven **XeBr*** excimer UV **light** source
AU Falkenstein, Zoran; Coogan, John J.
CS Chemical Science and Technology Division, Los Alamos National Laboratory, CST-18, Los Alamos, NM, 87545, USA
SO Journal of Physics D: Applied Physics (**1997**), 30(19), 2704-2710
CODEN: JPAPBE; ISSN: 0022-3727
PB Institute of Physics Publishing
DT Journal
LA English
AB The authors present the optimization of a silent discharge-driven **XeBr*** excimer UV **light** source. The radiant power and emission efficiency were measured as functions of the gas gap, partial pressure of Br2 and total Xe plus Br2 pressure for uncooled **lamps** driven by a sinusoidal voltage. Approx. 90% of the **lamp** output was in the B-X transition at 282 nm. The optimal **lamp** performance was measured with a gap spacing of 7.5 mm and a 150 torr filling of 0.15% Br2 in Xe. For the optimized system, UV prodn. efficiencies, including losses in the screen electrode, exceeded 7.5% and UV output power densities of 10 mW cm-2 were measured at a driving frequency of 15 kHz.

AN 1998:309847 CAPLUS
DN 129:46883
TI Continuous-wave emission in the ultraviolet from diatomic excimers in a microdischarge
AU Frame, J. W.; John, P. C.; DeTemple, T. A.; Eden, J. G.
CS Department of Electrical and Computer Engineering, Everitt Laboratory, University of Illinois, Urbana, IL, 61801, USA
SO Applied Physics Letters (1998), 72(21), 2634-2636
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Emission on the I2 (D' A'), **XeI** (B2.SIGMA.1/2+ X2.SIGMA.1/2+) and XeO (2 3.PI. 1 3.PI.) bands, peaking in the UV at 342, 253 and 238 nm, resp., was generated on a continuous basis in a microdischarge with a static gas fill. Discharges are produced in Kr/I2, Xe/I2, or Xe/O2 gas mixts. by cylindrical devices 400 .mu.m in diam. and fabricated in Si. Rare-gas-halide and -oxide microdischarge **lamps** are attractive UV or vacuum UV sources and **XeI**, in particular, appears to be a potential replacement for Hg resonance line radiation (253.7 nm).

AN 2000:608262 CAPLUS
DN 134:34781
TI Capacitive discharge excilamps
AU Sosnin, Edward A.; Erofeev, Mikhail V.; Panchenko, Alexei N.; Lomaev, Mikhail I.; Skakun, Victor S.; Shitz, Dmitrii V.; Tarasenko, Victor F.
CS High Current Electronics Institute, Tomsk, Russia
SO Proceedings of SPIE-The International Society for Optical Engineering (2000), 3933(Laser Applications in Microelectronic and Optoelectronic Manufacturing V), 425-431
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Study was made of the characteristics of XeCl, KrCl and **XeI** capacitive discharge excilamps. High efficiency of exciplex mols. and simple design were obtained under capacitive HF discharge excitation. Cylindrical excilamps with radiation output through side surface of the cylinder and through 1 or 2 windows placed on the tube ends were developed. High UV radiation power and elec. power deposition to fluorescence conversion resulted in efficiencies of up to 12%. The study of XeCl, KrCl and **XeI** excilamps showed, that it is possible to create sealed-off samples with lifetime >1,000 h. The stability of output parameters of the capacitive discharge excilamps is studied and the mechanism of Cl losses in low pressure halogen contg. excilamps made of quartz was detd. The possibility of creation of capacitive discharge excilamps with short pulse duration was studied. In capacitive discharge cylindrical KrCl-excilamp, at .lambda..apprx.222 nm the radiation pulse power up to 2.5 kW was obtained. Powerful radiation pulses 50 ns in duration were obtained at pulse repetition rate of 1 kHz.
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

AN 1999:711834 CAPLUS
DN 132:28369
TI Sealed efficient excilamps excited by a capacitive discharge
AU Lomaev, M. I.; Skakun, V. S.; Sosnin, E. A.; Tarasenko, V. F.; Shitts, D. V.
CS Institute of High-Current Electronics, Siberian Branch of the Russian Academy of Sciences, Tomsk, Russia
SO Technical Physics Letters (Translation of Pis'ma v Zhurnal Tekhnicheskoi Fiziki) (1999), 25(11), 858-859
CODEN: TPLEED; ISSN: 1063-7850
PB American Institute of Physics
DT Journal
LA English
AB The development of sealed XeCl (.lambda..apprx.308 nm), KrCl (.lambda..apprx.222 nm), and XeI (.lambda..apprx.253 nm) excilamps excited by a capacitive radiofrequency discharge is reported. Highly efficient emission of exciplex mols. is achieved under capacitive discharge excitation and the emitter has a simple design. An av. emission power of 3 W was obtained with a .apprx. 12% efficiency and the lifetime of the sealed excilamps was longer than 1000 h.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT